

ABSTRACT

In order to characterize the optical characteristics of a device, a source of light having a variable frequency with a polarization state which varies linearly with frequency is provided as an input to the device under test. The input light is also passed through a known reference path and is added to the light output from the device under test in a beam combiner. The combined light for the frequencies of interest is split into two orthogonal polarizations which are then detected in a spectral acquisition apparatus and supplied to a microprocessor. The spectral measurements are digitized and curve-fitted to provide optical power versus optical frequency curves. Fourier transforms of each of the curves are calculated by the microprocessor. From the Fourier transforms, the four arrays of constants are calculated for the Jones matrix characterizing the device under test.